

WHAT IS CLAIMED IS:

1. A method for determining the location of a mobile device comprising:  
receiving a location message from a communication network, wherein the  
location message comprises a plurality of signal tones;

5 modifying selected signal tones, wherein the selected signal tones have a  
frequency within a predetermined range of frequencies;

decoding the modified signal tones into a plurality of decoded values; and  
determining a location of a user based on at least the plurality of decoded  
values.

10

2. The method of Claim 1, wherein modifying the volume of selected  
signal tones comprises setting the volume of the selected signal tones to a  
predetermined value.

15

3. The method of Claim 1, wherein modifying the volume of selected  
signal tones comprises:

increasing a volume of each selected signal tone for which the volume is  
below a predetermined minimum; and

decreasing a volume of each selected signal tone for which the volume is  
above a predetermined maximum.

20

4. The method of Claim 1, wherein determining a location comprises:  
determining the location of the user based on at least the plurality of decoded  
values, and

25

generating a location output that includes the location of the user and  
conforms to National Marine Electronics Association Standard 1083 ("NMEA-  
1083").

5. The method of Claim 1, wherein determining a location comprises:  
determining the location of the user based on at least the plurality of values,  
and

5 generating a location output that includes the location of the user and  
conforms to the SiRF binary protocol.

6. The method of Claim 1, wherein the predetermined range of  
frequencies includes only frequencies between 300 and 3500 Hz.

10 7. The method of Claim 1, wherein the plurality of signal tones comprise  
a plurality of Dual Tone Multifrequency (DTMF) tones, the DTMF tones identifying  
the location of a position locating device communicated through a mobile  
communication device.

15 8. The method of Claim 1, wherein the location message comprises a  
plurality of DTMF tones and wherein receiving a location message comprises:  
receiving voice communication on a voice channel established between the  
user and the operator, and  
receiving simultaneously the location message on the voice channel.

9. A device for determining the location of a communication device comprising:

a network interface, operable to receive a location message comprising a plurality of signal tones;

5 a signal enhancement module operable to modify selected signal tones, wherein the selected signal tones have a frequency within a predetermined range of frequencies;

a tone decoder operable to decode the modified signal tones into a plurality of decoded values; and

10 a translator operable to determine a location of a user based on at least the decoded values.

10. The system of Claim 8, wherein the signal enhancement module is operable to modify selected signal tones by setting a volume of all the selected signal tones to a predetermined value.

11. The system of Claim 8, wherein the signal enhancement module is operable to modify selected signal tones by:

20 increasing a volume of each selected signal tone for which the volume is below a predetermined minimum; and

decreasing a volume of each selected signal tone for which the volume is above a predetermined maximum.

12. The system of Claim 8, wherein the translator is operable to determine the location by:

determining the location of the user based on at least the plurality of decoded values, and

30 generating a location output that includes the location of the user and that conforms to National Marine Electronics Association Standard 1083 ("NMEA-1083").

13. The system of Claim 8, wherein the translator is operable to determine the location by:

determining the location of the user based on at least the plurality of values, and

5 generating a location output that includes the location of the user and that conforms to the SiRF binary protocol.

14. The system of Claim 8, wherein the predetermined range of frequencies includes only frequencies between 300 and 3500 Hz.

10

15. The system of Claim 8, wherein the plurality of signal tones comprise a plurality of Dual Tone Multifrequency (DTMF) tones, the DTMF tones identifying the location of a position locating device communicated through a mobile communication device.

15

16. The system of Claim 8, wherein the location message comprises a plurality of DTMF tones and wherein the network interface is further operable to receive a location message by:

20 receiving voice communication on a voice channel established between the user and the operator; and

receiving simultaneously the location message on the voice channel.

17. A computer program stored on a computer readable medium, the computer program operable to:

receive a location message from a communication network, wherein the location message comprises a plurality of signal tones;

5 modify selected signal tones, wherein the selected signal tones have a frequency within a predetermined range of frequencies;

decode the modified signal tones into a plurality of decoded values; and

determine a location of a user based on at least the plurality of decoded values.

10 18. The computer program of Claim17, wherein the computer program is further operable to modify the volume of selected signal tones by setting the volume of the selected signal tones to a predetermined value.

15 19. The computer program of Claim17, wherein the computer program is further operable to modify the volume of selected signal tones by:

increasing a volume of each selected signal tone for which the volume is below a predetermined minimum; and

decreasing a volume of each selected signal tone for which the volume is above a predetermined maximum.

20

20. The computer program of Claim17, wherein the computer program is further operable to determine the location by:

determining the location of the user based on at least the plurality of decoded values, and

25

generating a location output that includes the location of the user and conforms to National Marine Electronics Association Standard 1083 ("NMEA-1083").

21. The computer program of Claim17, wherein the computer program is further operable to determine the location by:

determining the location of the user based on at least the plurality of values,  
and

5 generating a location output that includes the location of the user and conforms to the SiRF binary protocol.

22. The computer program of Claim17, wherein the predetermined range of frequencies includes only frequencies between 300 and 3500 Hz.

10

23. The computer program of Claim17, wherein the plurality of signal tones comprise a plurality of Dual Tone Multifrequency (DTMF) tones, the DTMF tones identifying the location of a position locating device communicated through a mobile communication device.

15

24. The computer program of Claim17, wherein the location message comprises a plurality of DTMF tones and wherein the computer program is further operable to receive the location message by:

20 receiving voice communication on a voice channel established between the user and the operator, and

receiving simultaneously the location message on the voice channel.